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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/634,850

08/06/2003

Chih-Cheng Hsieh

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03/22/2007

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SUITE 120

BLOOMFIELD HILLS, MI 48302

EXAMINER

GILES, NICHOLAS G

ART UNIT

PAPER NUMBER

2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/634,850

Applicant(s)

HSIEH, CHIH-CHENG

Examiner

Nicholas G. Giles

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01/17/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claim 19-27 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

1. Claims **20, 23, and 26** are objected to because of the following informalities:  
There is no antecedent basis for "the window" in the claims. For examination purposes "the window" will be treated to be "the first window". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims **19, 22, and 25** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The "second window" is not described anywhere in the specification.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims **19-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhart et al. (U.S. Patent No. 7,034,874).

Regarding claim **19**, Reinhart et al. discloses:

A method for defect compensation in a color image sensor having pixels, the method comprising the steps of: predetermining a first threshold (red pixel threshold 100, 4:8-17); selecting a first pixel and defining a corresponding first window that includes the first pixel (red pixel R1 (602) Fig. 6 with window corresponding to pixel G1 (601), pixel R1 (602), and G2 (603)); determining whether the first pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the same color which are adjacent to the first pixel (4:8-17); selecting a second pixel (pixel R3 (606) Fig. 6) and defining a corresponding second window that includes the second pixel (pixel line 600 Fig. 6); determining whether the second pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the same color which are adjacent to the second pixel (4:8-17, same procedure as first red pixel); and when the first pixel is not one of the two adjacent pixels of the second pixel, but is within the second window, storing bit information of the first pixel, indicating whether it is a

peak (4:8-17, note that since the system is digital 1-bit (or more) is used to remember the peak pixel).

The usage of 1 bit is akin to optimizing the values of a result effective variable, in this case using more bits decreases storage space available. Therefore, determining the optimal value of a result effective variable would have been obvious and ordinarily within the skill of the art. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

Regarding claim **20**, see the rejection of claim 19 and note that Reinhart et al. further discloses:

Providing a second threshold; and confirming a peak to be a defect if no other pixel in the first window is a peak and if two pixels immediately adjacent to the peak both have color differences smaller than the second threshold from their two adjacent pixels of the same color (4:8-17 and 4:32-40).

Regarding claim **21**, see the rejection of claim 20 and note that Reinhart further discloses:

Correcting a color value of the defect (4:57-60-5:21).

Regarding claim **22**, Reinhart et al. discloses:

A apparatus for defect compensation in a color image sensor having pixels, the apparatus comprising: a memory device (inherent); and a processor (inherent) operable for- (i) selecting a first pixel and defining a corresponding first window that includes the first pixel (red pixel R1 (602)

Fig. 6 with window corresponding to pixel G1 (601), pixel R1 (602), and G2 (603)); (ii) determining whether the first pixel is a peak by checking whether it has a color difference larger than a predetermined first threshold (red pixel threshold 100, 4:8-17) from two adjacent pixels of the same color which are adjacent to the first pixel (4:8-17); (iii) selecting a second pixel (pixel R3 (606) Fig. 6) and defining a corresponding second window that includes the second pixel (pixel line 600 Fig. 6); (iv) determining whether the second pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the same color which are adjacent to the second pixel (4:8-17, same procedure as first red pixel); wherein, when the first pixel is not one of the two adjacent pixels of the second pixel, but is within the second window, storing bit information of the first pixel, indicating whether it is a peak (4:8-17, note that since the system is digital 1-bit (or more) is used to remember the peak pixel).

The usage of 1 bit is akin to optimizing the values of a result effective variable, in this case using more bits decreases storage space available. Therefore, determining the optimal value of a result effective variable would have been obvious and ordinarily within the skill of the art. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

Regarding claim **23**, see the rejection of claim 22 and note that Reinhart et al. further discloses:

Processor further implements the step of: confirming a peak to be a defect if no other pixel in the first window is a peak and if two pixels immediately adjacent to the peak both have color differences smaller than a predetermined second threshold from their two adjacent pixels of the same color (4:8-17 and 4:32-40).

Regarding claim **24**, see the rejection of claim 23 and note that Reinhart further discloses:

Processor further implements the step of: correcting a color value of the defect (4:57-60-5:21).

Regarding claim **25**, Reinhart et al. discloses:

A method for defect compensation in a color image sensor having pixels, the method comprising the steps of: predetermining a first threshold (red pixel threshold 100, 4:8-17); selecting a first pixel and defining a corresponding first window that includes the first pixel (red pixel R1 (602) Fig. 6 with window corresponding to pixel G1 (601), pixel R1 (602), and G2 (603)); determining whether the first pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the first pixel (4:8-17); selecting a second pixel (pixel R3 (606) Fig. 6) and defining a corresponding second window that includes the second pixel (pixel line 600 Fig. 6); determining whether the second pixel is a peak by checking whether it has a difference larger than the first threshold from two adjacent pixels of the second pixel (4:8-17,

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same procedure as first red pixel); and when the first pixel is not one of the two adjacent pixels of the second pixel, but is within the second window, storing bit information of the first pixel, indicating whether it is a peak (4:8-17, note that since the system is digital 1-bit (or more) is used to remember the peak pixel).

The usage of 1 bit is akin to optimizing the values of a result effective variable, in this case using more bits decreases storage space available. Therefore, determining the optimal value of a result effective variable would have been obvious and ordinarily within the skill of the art. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

Regarding claim **26**, see the rejection of claim 25 and note that Reinhart et al. further discloses:

Providing a second threshold; and confirming a peak to be a defect if no other pixel in the first window is a peak and if two pixels immediately adjacent to the peak both have differences smaller than the second threshold from their two adjacent pixels (4:8-17 and 4:32-40).

Regarding claim **27**, see the rejection of claim 26 and note that Reinhart further discloses:

Correcting a color value of the defect (4:57-60-5:21).



***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas G. Giles whose telephone number is (571) 272-2824. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc - Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NGG



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SUPERVISORY PATENT EXAMINER